

CLAIMS

What is claimed is:

1. An isolated polynucleotide molecule encoding a PAR4 polypeptide selected from the group consisting of:

- a) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO: 1 from nucleotide 176 to nucleotide 1330;
- b) allelic variants of (a);
- c) orthologs of (a); and
- d) degenerate nucleotide sequences of (a), (b) or (c).

2. An isolated polynucleotide molecule of Claim 1, wherein the polynucleotide molecule is selected from the group consisting of:

- a) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO: 1 from nucleotide 227 to nucleotide 1330;
- b) allelic variants of (a);
- c) orthologs of (a); and
- d) degenerate nucleotide sequences of (a), (b) or (c).

3. An isolated polynucleotide molecule of Claim 1, wherein the polynucleotide molecule is selected from the group consisting of:

- a) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO: 1 from nucleotide 317 to nucleotide 1330;
- b) allelic variants of (a);
- c) orthologs of (a); and
- d) degenerate nucleotide sequences of (a), (b) or (c).

4. An isolated polynucleotide molecule encoding a PAR4 ligand selected from the group consisting of:

- a) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO: 1 from nucleotide 317 to nucleotide 409;
- b) allelic variants of (a);
- c) orthologs of (a); and
- d) degenerate nucleotide sequences of (a), (b) or (c).

5. An expression vector comprising the following operably linked elements:

- a transcription promoter;
- a DNA segment selected from the group consisting of:
 - a) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO: 1 from nucleotide 176 to nucleotide 1330;
 - b) allelic variants of (a);
 - c) orthologs of (a); and
 - d) degenerate nucleotide sequences of (a), (b) or (c); and
- a transcription terminator.

6. A cultured cell into which has been introduced an expression vector according to Claim 5, wherein said cell expresses the polypeptide encoded by the DNA segment.

7. An isolated PAR4 polypeptide.

8. An isolated PAR4 polypeptide selected from the group consisting of:

- a) polypeptide molecules comprising an amino acid sequence as shown in SEQ ID NO: 2 from residue 18 (Gly) to residue 385 (Gln);
- b) allelic variants of (a); and
- c) orthologs of (a),

wherein the PAR4 polypeptide is a protease-activated receptor.

9. An isolated PAR4 ligand selected from the group consisting of:

- a) polypeptide molecules comprising an amino acid sequence as shown in SEQ ID NO:2 from residue 48 (Gly) to residue 53 (Val);
- b) allelic variants of (a); and
- c) orthologs of (a).

10. A pharmaceutical composition comprising purified PAR4 ligand according to Claim 9, in combination with a pharmaceutically acceptable vehicle.

11. An antibody that binds to an epitope of a polypeptide according to Claim 8.

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